REMARKS

Claims 1-3, 7, 8, 13, 15, 17, 18, 20-23, 25, 26, and 29 are pending in the subject application after entry of the amendments. Claims 1, 7, 15, 20, 26, and 29 have been amended to address various informalities as shown on pages 2-9 of the Reply. Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Objection of Claims 26 and 29

Claims 26 and 29 stand objected to for various informalities. In view of the amendments herein, withdrawal of this objection is respectfully requested.

II. Rejection of Claims 1-3, 7, 8, 13, 15, 17, 18, 20-23, 25, 26, and 29 Under 35 U.S.C. §103(a)

Claims 1-3, 7, 8, 13, 15, 17, 18, 20-23, 25, 26, and 29 stand rejected under 35 U.S.C. §103(a) over Shattil (U.S. 7,593,449). Withdrawal of this rejection is requested for at least the following reason. The cited art fails to teach or suggest all aspects of the subject claims.

The subject patent application relates to an orthogonal code division multiple access (OCDMA) transmission and reception scheme. In particular, the subject application provides for reducing interference from cross-polarization of signals transmitted with opposite polarization. In an example, data signals disparate users (e.g., terminals), encoded respective unique Walsh codes, can be encoded with an identical long code before being transmitted in opposite polarization of an OCDMA signal. To this end, independent claim 1 recites, "*[a] method for reducing cross-polarization interference in a wireless communication system, comprising:* ***generating first data to be transmitted from a first transmission terminal; encoding the first data with a long code at the first terminal to produce a first long-encoded signal; applying a first polarization to the first long-encoded signal to produce a first long-encoded, polarized signal; generating second data to be transmitted from a second transmission terminal; encoding the second data with the long code at the second terminal to produce a second long-encoded signal; applying a second polarization to the second long-encoded signal to produce a second long-encoded, polarized signal;*** *and transmitting the first and second long-encoded, polarized signals from the first and second transmission terminals, respectively, to at least one destination.*" The cited art fails to teach or suggest such features.

Shattil provides transmission protocols based upon carrier interferometry (CI) to reduce multi-path interference. CI is a class of multicarrier processing techniques that use sets of phase shifts to overlay and separate data streams. (*See* col. 4, lines 34-42). In one example, Shattil discloses that CI can be utilized with CDMA. For instance, a user is assigned a plurality of phase spaces, wherein each phase space corresponds to a superposition of carriers that provide a chip for the user's CDMA code. While Shattil discloses that users can share same carriers and phase spaces, the codes associated with each user are different. (*See* col. 36, lines 48-54). For instance, Shattil discloses each user including a unique spreading sequence. (*See* col. 38, lines 4-15). Moreover, Shattil discloses that different data streams are encoded onto different CI codes. (*See* col. 76, line 67 to col. 77, line, 1).

Accordingly, Shattil fails to teach or suggest encoding first data from a first transmission terminal and second data from a second transmission terminal with a same long code. Rather, Shattil discloses separate codes for different users. Moreover, Shattil fails to teach or suggest two terminals utilizing separate polarization while employing an identical long code. Rather, Shattil discloses CI transmission and reception aspects in relation to a single user as opposed to interaction with multiple users. Therefore, it is readily apparent that Shattil fails to teach or suggest all aspects of independent claim 1. Claims 2, 3, and 7 depend from independent claim 1 and are allowable for at least the reasons above.

Independent claim 8 recites, in part, "*[a] method of demodulating first data transmitted from a first transmission source and second data transmitted by a second transmission source, the first data transmitted as a first long-encoded, polarized communication signal having a first polarization and the second data transmitted as a second long-encoded, polarized communication signal having a second polarization, the method comprising...**applying a long code to the first and second long-encoded communication signals to produce first and second decoded signals;** applying a first orthogonal code to the first decoded signal to produce the first data; and applying a second orthogonal code to the second decoded signal to produce the second data.*" Independent claim 17 recites similar features. As discussed supra, Shattil fails to teach or suggest two communication signals from two separate users employing an identical long code. Rather, Shattil discloses distinct codes for different users. Accordingly Shattil fails to teach or suggest every feature of independent claims 8 and 17 (and claim 13 which depends from claim 8).

Independent claim 15 recites, in part, "*...encoding first data with a long code at a first terminal to produce a first long-encoded signal...encoding second data with the long code at a second terminal to produce a second long-encoded signal...*" As discussed above, Shattil fails to teach or suggest two users employing a same long code. Thus, Shattil fails to teach or suggest all aspects of independent claim 15.

Independent claim 18 recites, in part, "*...a first terminal, comprising... a first long code generator for generating a long code; a first mixer for encoding the first data with the long code to produce a first long-encoded signal... a second terminal, comprising... a second long code generator for generating the long code; a second mixer for encoding second data with the long code to produce a second long-encoded signal.*" Shattil fails to disclose identical codes utilized by more than one user. Therefore, Shattil fails to teach or suggest all features of independent claim 18.

Independent claim 20 recites, in part, "*...a first mixer for applying a long code to the first long-encoded communication signal to produce a first decoded communication signal; a second mixer for applying the long code to the second long-encoded communication signal to produce a second decoded communication signal...*" Independent claim 21 recites, in part, "*...means for encoding first data with a long code at a first terminal to produce a first long-encoded signal...means for encoding second data with the long code at a second terminal to produce a second long-encoded signal...*" Independent claim 26 recites, in part, "*...means for applying a long code to the first long-encoded communication signals to produce a first decoded communication signal; means for applying a long code to the second long-encoded communication signal to produce a second decoded communication signal...*" As discussed supra, Shattil fails to teach or suggest two users employing a same long code. Thus, Shattil fails to teach or suggest all aspects of independent claims 20, 21, and 26 (and dependent claims which respectively depend therefrom).

In view of at least the foregoing, it is readily apparent that the cited art fails to teach or suggest all aspects of independent claims 1, 8, 15, 17, 18, 20, 21, and 26 (and respective dependent claims). Accordingly, withdrawal of this rejection is respectfully requested.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [QUALP825US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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